AAA ALLIED SEPTIC TANK SERVICE
P.O. BOX 791
SANTA FE, NM 87504-0791
(505) 982-2242

Mr. Shall,

I attended 6 of the public meetings, Ruidoso, Rio Rancho, Moriarity, Taos, Espanola and Santa Fe. As President of the Professional Onsite Wastewater Reuse Association of New Mexico (POWRANM), I thought it was important to hear what the public, the Real Estate community and the industry had to say. To be clear, the thoughts and concerns listed below are that of me and my companies AAA Allied Septic Tank Service and Water Management Associates, my Maintenance Service Providing Company. I took into consideration what I heard and what I believe we need to see in terms of rule changes. POWRA had put forth a set of proposed rule changes, which we will be amending (see EIB 11-12(R).

Some concerns I have in regards to the proposed NMED rules changes are the ½ acre lot size. I understand from Dennis McQuillans presentation, that in some cases, we should not be worried about ground water contamination in regards to the ½ acre. What concerns me as a professional installer is the issue of space. In many cases we see 1 / 2 acre lots being almost fully developed with a home, garage, driveway, well, storage and sometimes corals or other structures. This leaves little to no room for the wastewater system. When this system eventual fails, the only viable solution may be soil replacement. This means we will have to excavate and haul off the existing saturated/contaminated soil for the old leach field. We will have to find a site that will accept this old soil, pay to haul it there, and pay to dispose of it. We will then have to import new soil to the property and install a new field. The cost of this could, in many cases, cost more than the value of the existing lot. I would like us as an industry and the environment department to move forward, not backwards in terms of lot size. I believe that in trying to make these 1 /2 acres lots easier to develop in terms of the septic system, we may be creating a greater long term cost.

We need to clarify the language in the LPP section (20.7.3.808) of the regulations. These are great and viable systems that can help benefit consumers as well as offer solutions in hard or difficult sites.

POWRA has proposed language that will clarify what can be used as an approved riser. In my 30+ years in the industry, I have seen trash cans, rain barrels, metal drums, dry staked cinder block that allows water to infiltrate the tank and other items used as risers for septic tanks. These can not only prove to be unsafe, but often times the consumer is paying a lot of money

for something that is either destine to rot or collapse. We need to protect the consumer in these cases.

We also need to address the concern regarding unlicensed contractors who have NAWT certifications, but are contracting. We are seeing and hearing complaints that some of these individuals are installing risers and or repairing broken pipes during inspections. They are bringing a backhoes or excavators to these sites and excavating for the purposes of either exposing unpermitted systems or adding the risers, installing effluent filters or performing repairs. The CILA (Construction Industries Licensing Act) is clear that these tasks require a license. The consumer is offered no protection from these unlicensed entities. If they excavate and break a utility line or cause some other damage, they will not have insurance to cover the damage and the consumer may be left paying for these damages. Unlicensed contractors cannot get commercial liability insurance for contracting, if they do not have a contractor's license. They usually only have Truck Insurance. This may need to be worked out with Construction Industries Division (CID) and language added to the Liquid Waste Regulations. This way it is clear to all field offices, that they should not be accepting Transfer of Property Inspections which include repairs, risers being added or other excavation being performed other than that which is required to simply open a septic tank for pumping purposes only, from unlicensed contractors. This also, I believe, offers a greater protection to the Real Estate Community, who may be led to believe that some of the entities are licensed. If it is not in 20.7.3, it will leave this open to interpretation.

As for other Transfer of Property issues, we need to add language that requires upon transfer of an Advanced Treatment Unit (ATU), the company performing the inspection, the homeowner or Real Estate agent, must contact the Maintenance Service Provider (MSP) prior to the transfer inspection. This will avoid someone either shutting down the unit without the MSP knowing, or leaving units running, but pumping the systems and causing damage such a pumps to burn out (no back pressure or to overheat). This will protect the consumers and the Real Estate community and can avoid possible expensive repairs.

20.7.3.201 E should add additional proposed language regarding when it is required to connect to a public sewer. The UPC had language that in some cases will allow the consumer to keep a septic system. I will provide the department with that section of the UPC. The added language should state:

20.7.3.201 E: "unless the system cannot meet by means of gravity, and a septic system can be maintained". This can be found the Uniform Plumbing Code (UPC).

As for 20.7.3.201 P, since we are currently trying to have CID adopt the Liquid Waste Regulations as the Building Code, we should try to avoid changing flows any further from what the current UPC has listed. Also by lowering flow sizing, and possibly allowing for smaller leach fields, we have the concerns of organic overloading.

We need to address water tight inlets on septic tanks. The water tight outlets that were required back in the 2005 regulations have been a success. The same should go for the inlets.

Requirements for small RV parks, convenient stores and restaurants need to be addressed in terms of influent and effluent waste strength.

As for the proposed new hydro geological mapping, I don't think it is a bad idea, but I have concerns as to who will train the NMED staff on this as well as who makes final decisions as to where these boarders CLEARLY start and end.

Lastly, I would like to address the Installer Specialist. This is a, for lack of a better term and no disrespect intended, a diluted version of what Mr. Eugene Bassett wrote back in the now changed 20.7.3.904. That being said, I think given the right circumstances, and because it is a voluntary program, I believe that any education is beneficial to a contractor or his or her employees. Tom Frits, incoming President of NOWRA, believes voluntary education is the way of the future (this has been related to me through several sources). I'm not sure I totally agree with this, but he may be proven to be right. I am hopeful that this will be a success, and that ultimately the consumer will be fully protected and the industry will do a great job. I do however feel strongly, as I stated in most all the public meetings I attended, that the current list of approved training, should not be used for the Installer Specialist. If we, as an industry, or those that "qualify" are going to call ourselves an Installer Specialist, then the classes we take should only be about installing. MSP issues, New Mexico One Call classes, WTAC meetings are all great and should be attended any way, but they are not going to make you an installer Specialist. Classes like NAWT Installer, CIDWT and NOWRA or other viable installer trainings are out there that will improve the skills of the industry. If the consumer is going believe that we are Installer Specialists, and have to trust us for self inspections, then we should be trained, voluntary or not, in the field of installing. The department should start over and allow for new training to be submitted that is beneficial to this proposed category. Most all members of the Task Force could meet, and verbally have agreed they would, to approve new classes. They spent a lot of time and effort, to come up with a training protocol and what is needed, we should utilize them. I have also questioned, that since the NMED deemed the Education Steering Committee, which approved the previously approved classes, to be illegal then how can we accept classed from an "illegal" committee? I am open to listening and will work with the department to move forward, but believe this is a legitimate concern.

Ralph Baker Dotson

McQuillan, Dennis, NMENV

From: Schall, Brian, NMENV
Sent: Monday, November 07, 2011 8:45 AM
To: McQuillan, Dennis, NMENV; Brandt, Tom, NMENV
Subject: FW: reg changes

Interesting comments.

Brian Schall
Env. Specialist A
NMED Liquid Waste Program
(505) 222-9513

From: BassettEC@aol.com [mailto:BassettEC@aol.com]
Sent: Thursday, November 03, 2011 9:47 PM
To: Schall, Brian, NMENV; aaaalliedseptic@msn.com
Subject: reg changes

we all need to sit down and redo the lpp section, increase the concrete strength to 4500 psi in 28 days , all novs make them appealable , add vents app 5 feet from the outlet of concrete septic tanks to keep the gases from eat the concrete up , increase drainfield size from 2.0 to 2.25 and 5.0 to 5.7 , require all inlets of septic tanks to be watertight connections as the outlets are now , due away with the 30% reduction for drain fields , change the transfer of property inspections to only licensed contractors with nawt training , add that all filters shall have handles extended to with in 6" inches of the top of the access riser , exclude five gallon buckets plastics barrels or single wall pipe from being used as access risers , fast food ie like allsups ect 100 < bod , 15< o&g to go to the soil treatment unit , grease traps shall be inspected by nmed it is waste water and we need to come up with some standers and design

Joseph and Joyce Cantergiani
40 Juniper Hill Rd. N.E.
Albuquerque, Nm 87122

November 1, 2011

Dear Brian,

We are very concerned about the requirements for upgrades to our septic system. Sandia Heights has good separation between the wells and the septic tanks. Please do not use one set of guidelines for every situation. Please amend your regulations and use a hydrogeological sensitivity solution.

Sincerely,

Joseph C Cantergiani
Joseph Cantergiani

Joyce Cantergiani
Joyce Cantergiani

963 Antelope Avenue, N.E.
Albuquerque, New Mexico 87122
November 4, 2011

Mr. Brian Schall
NMED Liquid Waste Program
5500 San Antonio Drive NE
Albuquerque, New Mexico 87109

Dear Mr. Schall

Re: Comments on the Proposed Amendments to the Liquid Waste Disposal and Treatment Regulations 20.7.3 and 703 NMAC

I am responding to the request for input from homeowners in the News Release, October 4, 2011, "Environmental Department Seeks Input on Septic Tank Rules."

My wife and I are homeowners in Sandia Heights in Albuquerque, NM. I am a Civil/Geological Engineer by training and experience, and a Certified Systems Engineering Professional. My comments are made from this perspective.

1. My wife and I concur with the following statements in the News Release, especially with the intent of the New Mexico Environmental Department (NMED) "*to making sure that regulations are based on good science and common sense*," protecting groundwater quality, and "*are not unreasonably burdensome*" on homeowners and businesses. We especially agree with the intent of NMED to move away from a *one-size-fits all program* to a system which would identify areas with high and low hydrogeololgic sensitivity. This "systems engineering" approach acknowledges the need to consider the entire State of New Mexico as a complex system with a broad range of hydrogeologic diversity (including their specific hydrologic, chemical, filtration, and biologic properties), as indicated by the State[1].

   Also, the assumptions underlying the design flow in Section 20.7.3.201.P, relative to actual number of residents in households, does not reflect the actual number of residents in households in Sandia Heights. Specifically, two persons per bedroom for the first two bedrooms and occupancy in every bedroom is unrealistic and subsequently leads to unrealistically high design flow. It would be better to consider actual, residential water usage recognizing that a percentage of this consumption (especially during late spring and summer months) does not enter the septic tank and is used for ground surface applications such as flower beds, gardens, and trees. Our actual usage is a fraction of the amount computed using the approach defined in the Section cited above.

[1] See the aquifer sensitivity map contained in the following references. (1) NMED's presentation on September 2011, "*Possible Amendments to EIB Liquid Waste Regulations 20.7.3 NMAC*" and the "*Proposed Amendments to 20.7.3.301 and 703 NMAC to Accommodate Natural Hydrogeologic Protection*," dated August 23, 2011.

Given the following factors:

a) Sandia Heights is in a no aquifer sensitivity zone as illustrated by the State's Aquifer Sensitivity map.
b) The vadose zone, underlying Sandia Heights, is thick which contributes to this categorization.
c) There are no private drinking water wells in Sandia Heights.
d) Our drinking water is from co-located wells, operated by Sandia Peak Utility Company, drawing water from a deep section within the unconfined aquifer.
e) Our drinking water meets all EPA and State drinking water standards.[2]
f) The assumptions underlying design flow in Section 20.7.3.201 lead to an unrealistically high design flow.

we believe that the 0.75 acre rule is a *one-size-fits-all* requirement and should be changed to reflect these types of considerations, especially because Sandia Heights is not in an aquifer sensitive zone. These considerations should also be applied throughout the State. It is unclear how providing secondary and tertiary treatment, a significant and burdensome cost to the homeowner, under the existing regulatory framework, would add any tangible benefit to the environment, in our area, and similar areas throughout the State.

The technical basis for a homeowner, having a lot less than 0.75 acre, to have tertiary treatment (see section 20.7.3.605.D.2) is not transparent, does not appear to be technically defensible and hence appears to be arbitrary, and is not systems based.

2. The following comment relates to the Proposed Amendments to 20.7.3.301 and 703 NMAC, dated August 23, 2011. It is proposed to add a new section, "K", to section 20.7.3.301. As pointed out, this section lists considerations. I would suggest generalizing the considerations to some extent. A suggested rewrite to item 4 might be the following: "Uppermost groundwater occurs in an environment where the vadose zone is thick (>100 feet) with one or more geologic strata in the vadose zone that may act as a capillary barrier." I believe that the important concept considered here is the benefit of having a natural capillary barrier embedded within a "thick" unsaturated zone can be very effective in buffering pollutants.

   Migration of groundwater depends on many variables such as the characteristics (physical, chemical, filtration capability, and biological) of the soil column. The use of a *one-size-fits-all* depth to groundwater needs to be evaluated. All numbers stated should have a sound, technical basis.

3. Regarding installer/inspectors: If the inspector and the installer are the same entity, there could be a conflict of interest. It is important in the regulations to state that the inspector should be independent of any installer interests. Further, I believe that the inspector should be certified to perform the inspection and an employee of the State or County of interest.

In conclusion, my wife and I recommend modification of the regulations away from the *one-size-fits all approach*. It is important to have an integrated, systems engineering approach to preserving the quality of groundwater and surface water in our state, especially considering an approach that is based on good

[2] From the Sandia Peak Utility Company 2010 Water Quality Report.

science, uses common sense, is realistic, and is not an unreasonable financial burden to homeowners and businesses. Thank you for the opportunity to comment on these regulations and supporting materials.

Respectfully submitted,
Joseph Fernandez, P.E., PMP, CSEP

November 2, 2011

Dear Mr. Schall,

I am a Sandia Heights homeowner who under the new regulations would have to have the tertiary waste system for my home. This is ridiculous. The cost is outrageous 20,000 to 30,000 dollars wasted. They would have to tear up a flagstone patio and stairs as well as extensive mature landscaping. All this for what purpose? Nothing would be gained. Our current septic tanks do not affect our deep well water supply and we are too far from the Rio Grande for any waste to enter the river.

It sounds like a bunch of environmental whackos got together and got this passed without considering the financial burden that it would place on the homeowners.

Please try to get rid of this stupid one size fits all law or postpone the dates required.

Also a sewer system could be installed that would obviate the need for any septic tanks. They put cable in as well as natural gas so why not a sewer system? It would cost us to have that done but it should be less than the 20,000 to 30,000 alternative.

Sincerely,

Ann W. Galindo

McQuillan, Dennis, NMENV

From: Schall, Brian, NMENV
Sent: Monday, November 07, 2011 8:44 AM
To: McQuillan, Dennis, NMENV; Brandt, Tom, NMENV
Subject: FW: Proposed Amendments to 20.7.3.301 and 703 NMAC

Another Sandia Heights comment.

Brian Schall
Env. Specialist A
NMED Liquid Waste Program
(505) 222-9513

From: rgreen512@aol.com [mailto:rgreen512@aol.com]
Sent: Friday, November 04, 2011 9:41 AM
To: Schall, Brian, NMENV
Subject: Re: Proposed Amendments to 20.7.3.301 and 703 NMAC

Dear Mr. Schall,

We're writing this letter to express our desire to see the state amend their regulations from a"one-size-fits-all solution" to a hydrogeological sensitivity solution (i.e. if an area has the possibility of affecting ground water by their septic systems they should have to have upgraded systems, but if they do NOT the current systems should suffice and useless expensive upgrades are unnecessary. Our rationale is based on the following:

- Depth of public wells for Sandia Heights are 600- 800 ft.-
- Arbitrary conditions such as lot size, and number of bedrooms does not affect the vulnerability of the ground water
- Number of people in a residence does not fit the scenario for Sandia Heights as population density is much smaller than the formula of people to bedrooms suggests
- One Size Fits All regulations for entire state is unjust especially for the costs of these systems to install, inspect and maintain..
- Current septic systems have proven to be effective for the Sandia Heights Area as can be see by the good water quality reports that Sandia Heights has had for years
- Sandia Heights is in an area of no hydrogeological sensitivity and therefore amending the current regulations is appropriate (i.e.away from the one-size-fits-all approach).
- Protecting our ground water is of vital importance however, a one size fits all solution in not the answer rather geologic, hydrologic studies, and mapping the hydrogeological vulnerability and aquifer sensitivity makes more sense.

- I / We support changing the amendment that currently requires unnecessary, costly expenses to the home owner which results in no improvement in the water quality and rather would like to see an amendment which considers aquifer sensitivity.

Thank you for your attention in this matter.

Sincerely Renee and Roger Green
33 JUniper Hill Rd. NE
Albuquerque, NM 87122

McQuillan, Dennis, NMENV

From: Schall, Brian, NMENV
Sent: Monday, November 07, 2011 3:28 PM
To: McQuillan, Dennis, NMENV; Brandt, Tom, NMENV
Subject: FW: septic systems Sandia Heights

Here's one form Sandia Heights I missed.

Brian Schall
Env. Specialist A
NMED Liquid Waste Program
(505) 222-9513

From: Art Jarvis [mailto:artjarvis108@gmail.com]
Sent: Tuesday, November 01, 2011 4:55 PM
To: Schall, Brian, NMENV
Subject: septic systems Sandia Heights

Sir, My house was built in 1977 and it now has 5 bedrooms, 21/2 baths on one acre of land. We have incredibly good water in our part of town. Please do NOT arbitrarily dictate a change to our septic code with a " one-size-fits-all " approach to the current system. If a house system fails now it should be repaired or replaced with new technology but to make me change without reason is ridiculous. Regards Art Jarvis 108 Whitetail Dr.NE Abq 87122 505 856 6976

JOHNNY'S
"Since 1950"
SEPTIC SYSTEMS & EXCAVATING
2155 Dona Ana Rd.
Las Cruces, NM 88007

October 19, 2011

Brian Schall, NMED Liquid Waste Program
5500 San Antonio Drive NE
Albuquerque NM 87109

RE: Proposed changes to the current Liquid Waste Regulations

I have questions that there was no time for at the public meeting, and a few comments on things that are being made more restrictive that may make it impossible to install or replace a septic system on a given piece of property. I am first explaining the reasons for the regulation changes I am suggesting with the attached red-lined language.

I do feel that, overall, this will be a more flexible regulation, using a more common sense approach and abandoning the "one size fits all" criteria that may stop at least some of the illegal installations. With the proposed voluntary training, the focus on the fact that this is a very diverse State, and the consideration of concerns and suggestions from installers, realtors, etc., we should hopefully have a more environmentally/homeowner/business friendly set of regulations.

20.7.3.7.L.5 ***DEFINITIONS-LIQUID WASTE*** I am submitting language that would change this definition to 5000 gallons per day to accommodate the many, many small mobile home parks that cannot be sold nor improvements made to systems due to the high cost of, and lengthy wait time, to obtain a discharge plan. (We have a customer with six homes on one lot (2250 gallons per day) and we cannot replace a homemade tank and failed drainfield!!)

201.J ***RV WASTE*** Dennis said that there will be an allowance in the regs for homeowners to be able to dump their RV waste into their septic tanks. Would appreciate seeing that happen. I am attaching proposed language

Table 201.1 #22 ***ANIMAL WASTE*** What do we do about kennels, shelters, and "doggie hotels"? I was told by GWGB that they do not regulate them so this addition to the table would leave them out of any regulatory oversight. The 20 gpd per kennel that is in the current regs but has disappeared from and is not even referenced by strikeout in the proposed set was a workable number. The dog boarding business seems to be growing, and are most always away from the cities and on septic.

Table 302.1 & 302.C ***FLOOD IRRIGATION SET-BACKS*** We feel there should be a bit of flexibility here (maybe discretionary on the part of the inspector) because although we GREATLY prefer to install outside an irrigated area, sometimes there just is nowhere else to install.

701.L ***DESIGN; CONVENTIONAL DISPOSAL FIELD AND CONSTRUCTION*** The attached proposed change to 701 leaves a way for installations that may need to be under a parking lot for instance. Installers need a way (legally) to install or replace a drainfield when no other area is available.

806.A ***EVAPOTRANSPIRATION BEDS*** As the BOD limit has been removed does this mean that we can use ET Beds for RV parks?

808.B.1.c ***LOW PRESSURE DISPOSAL SYSTEMS*** We do not understand the limit of 70 feet per lateral. If you use an effluent pump, then yes, but if you install a quality, properly rated turbine pump your lines can be considerable longer. We have installed several systems (designed by engineers and using turbine pumps) that had laterals of up to 130 feet in length. I am attaching proposed language addition.

902.E ***INSPECTION REQUIERMENTS AT TIME OF TRANSFER*** The additions I am submitting to 902 are straight from the 2005 draft but were somehow left out of the final version. I really thought the requirements in that draft were very relevant to properly inspecting a system for property transfer, so I put them back in. The exception is to "J", which I felt needed to be there because there are no guidelines nor deadlines and this leaves us with no answers: Does this happen before transfer, or after transfer? Realtors have really been questioning this.

Thank you for considering my comments, and I would really appreciate answers to my questions. The answers will help me to know how to better use these new regulations!

Respectfully submitted,

Bobbie Suggs
Johnny's Septic Tank Co.
575-526-5442

PROPOSED LANGUAGE CHANGES TO 4/18/11 LIQUID WASTE REGULATIONS DRAFT

20.7.3.7 Definitions

L.5 "liquid waste" means the discharge of wastewater from any residential or commercial unit where the total discharge on a lot is ~~2000~~ 5000 gallons

201.J Procedures; General Requirements (RV waste)

J On site liquid waste systems, other than holding tanks, receiving waste from recreational vehicles (RV's) shall provide ~~pre~~-treatment of the waste to ~~the level of domestic waste~~ primary treatment levels as defined in paragraph (6), Subsection ~~D~~P of 20.7.3.7 NMAC prior to discharging to a conventional disposal system. Monitoring of the effluent is required. Existing permitted on-site liquid waste systems receiving waste from recreational vehicles (RV's) shall continue to be authorized to operate. Upon modification to these existing systems the system shall be required to provide the level of ~~pre~~treatment of the waste identified above.

1. It will be allowable for homeowners to empty their personal Recreational Vehicle waste water tanks into their permitted on site liquid waste system.
2. It will not be allowable to introduce wastewater from a Recreational Vehicle living quarters, whether temporary or permanent, into an on-site liquid waste system unless the wastewater is treated to meet the definition of primary wastewater and lot size criteria has been met.

701.L Design; Conventional Disposal Field and Construction

L. Disposal systems, including both conventional and alternative disposal, shall not be paved over or covered by concrete or any material that can reduce or inhibit any possible evaporation of effluent unless the size of the drain lines are increased to compensate for the lack of expected evaporation.

808B.1.c Low Pressure Disposal Systems

c. Each individual lateral shall not exceed 70 feet in length from the feed point unless a properly rated turbine style pump is used to provide dosing.

Changes to 902.E INSPECTION REQUIREMENTS AT TIME OF TRANSFER

E. Prior to the transfer of a property with an existing permitted on-site liquid waste system, current system owner shall have the system inspected. Permitted liquid waste systems shall be evaluated by an inspector qualified in accordance with Subsection C of 20.7.3.904 NMAC utilizing a department approved form. Unpermitted liquid waste systems shall be inspected by the department and registered pursuant to subsections J or K of 20.7.3.401 NMAC.

F. For permitted conventional systems

(1) the sludge and scum levels shall be determined and the septic tank pumped as needed; and,

(2) the septic tank shall be inspected for signs of deterioration or other defects; and,

(3) the outlet tee shall be inspected and replaced if needed; and,

(4) the effluent filters shall be cleaned and replaced if damaged or not found in place; and,

(5) the disposal area shall be evaluated for proper operation.

~~F~~G. For advanced treatment systems

(1) the system shall be sampled in accordance with permit conditions for compliance with 20.7.3.602 604 NMAC if a regularly scheduled sampling event has not occurred within 180 days of the inspection; the sampling results shall be included with the system report; if a regularly scheduled sampling event has within 180 days of inspection, the results of the sampling shall be included in the inspection report; and

(2) an amendment of permit reflecting ownership change is required pursuant to Subsection E of 20.7.3.403 NMAC; and,

(3) the sludge and scum levels shall be determined and the tank pumped as needed; and,

(4) the effluent filters shall be cleaned and replaced if damaged or not found in place if a filter is applicable to the system; and,

(5) the disposal field shall be evaluated for proper operation.

H. If a final inspection with final approval for a new or modified system or a property transfer inspection for an existing system has been done within 180 days of the transfer of the property, the property transfer inspection need not be conducted.

I. Inspections shall be recorded on forms approved by the department. Inspection reports shall be kept on file by the inspector of the on-site liquid waste system. Inspectors shall submit to the department copies of all inspection reports, whether completed or not, within 15 days of the inspection. A permit or variance application shall be submitted within 15 days of the inspection to correct any deficiencies or permit violations identified by the inspection. In addition, all inspection reports shall include the global positioning system (GPS) tank. Once an inspection is requested, all results, whether complete or not, shall be submitted to the department

~~H~~J. In the event of a failed system, that includes, but is not limited to disposal fields, the owner shall within 30 days submit a permit application to remedy the failed system with department approval.

JOHNNY'S
"Since 1950"
SEPTIC SYSTEMS & EXCAVATING
2155 Dona Ana Rd.
Las Cruces, NM 88007

November 3, 2011

Dennis McQuillan
Liquid Waste Program Manager
525 Camino de los Marquez, ST #1
Santa Fe NM 87505

Dear Dennis,

Please find attached proposed language for Section 20.7.3.814 (SPLIT FLOW SYSTEMS) that incorporates the use of evapotranspiration beds for split flow systems. I feel that this is a very necessary addition to the regulations to prevent not only ground water pollution from undersized lots (by way of simply attaching a legally installed holding tank to an existing drainfield,) but also to keep these units from becoming a health hazard. Case in point: We were called to pump what the home owner thought was an overflowing septic tank. As we had delivered the tanks for another contractor I was able to ascertain that it was actually a holding tank for his toilet waste (high water alarm not working properly). It was over flowing all over the ground to the point that our service tech complained that his boots got wet and messy. The homeowner has lived in the home for less than a month and had no idea that he had a split flow system, and certainly no clue that this system had a tank that had to be pumped frequently.

We have for several years been allowed to install an evapotranspiration bed following the septic tank for the toilet waste only (all other waste goes to a septic tank/drainfield) and these systems are working very well. We learned about this "segregation" method of disposing of wastewater from a paper written in 1977 by Dr. Robert L. Siegrist (applicable pages attached). The method was discussed in 2005 at our suggestion by the members of a task force appointed to facilitate a re-write of the regulations. The idea was discussed by the group, but needed further consideration by NMED and was not implemented into the September 2005 regulations. We submitted a permit to install a "toilet segregation" system in 2007 and the application was granted. We have permitted and installed several more of these over the past few years.

We feel that this is a very workable, cost effective solution to our smaller lot problems and should become a part of our regulations. Please let me know what you think.

Regards,

Bobbie/Johnny's Septic Tank Co.
575-526-5442

PROPOSED LANGUAGE FOR SPLIT FLOW SYSTEMS

20.7.3.814 SPLIT FLOW SYSTEMS: Split flow systems may be installed for the purpose of reduction of total nitrogen discharges in lieu of installation of non-discharging or tertiary treatment systems.

A Based on the assumption that toilet waste contains 80 percent of the total nitrogen in domestic liquid waste and that the quantity of liquid waste from a toilet is 25 percent of the total domestic waste stream, the following formula shall be used to calculate the minimum lot size allowed for permitting of a split flow system: minimum lot size (in acres) = 0.0003 x design flow.

B The disposal system, based on the assumption that non-toilet waste comprises 75 percent of the design flow, may be reduced to 75 percent of the minimum required absorption area as described in 20.7.3.703.

C The toilet waste holding tank shall have a minimum capacity of ~~1000~~ 1500 gallons and shall meet all requirements of holding tanks as described in 20.7.3.809, except for parts A, B, C, D, E and H.

1. A condition of the permit for a split flow system with a holding tank shall be that a written disclosure be given to a homeowner purchasing a property utilizing one of these systems. The disclosure will state that the system will require extra care, maintenance, and expense.

D When adequate installation area is available, an evapotranspiration bed shall be installed following the toilet waste tank.

1. The evapotranspiration bed will be sized, in square feet, to equal the required drainfield sizing for a conventional system. Example: A three bedroom home that may require a 750 square foot drainfield would mean the evapotranspiration bed would require an equal 750 square feet sizing for the same three bedroom home.

2. The evapotranspiration bed will be constructed in accordance with 20.7.3.806 NMAC.

3. An effluent filter shall be installed in the outlet tee of the toilet waste tank.

#2.20

SMALL SCALE WASTE MANAGEMENT PROJECT

Waste Segregation to Facilitate Onsite Wastewater Disposal Alternatives

by

Robert L. Siegrist

March 1977

UNIVERSITY OF WISCONSIN - MADISON
College of Agricultural & Life Sciences
Agricultural Engineering
Food Research Institute
Soil Science
School of Natural Resources
Environmental Resources Center
College of Engineering
Civil & Environmental Engineering

Copies and a publication list are available at:
Small Scale Waste Management Project, 345 King Hall
University of Wisconsin - Madison, 53706 (608) 265 6595

WASTE SEGREGATION TO FACILITATE ONSITE WASTEWATER DISPOSAL ALTERNATIVES

Robert L. Siegrist

The search for improved methods of onsite wastewater management initially centered largely around developing more effective treatment and soil disposal system technology. However, acknowledging the impact of wastewater characteristics on management efforts, increasingly more emphasis is being placed on altering the characteristics of the raw wastewater. Elimination or isolation of potential pollutants at the source, such as flow, BOD_5, suspended solids, nutrients and pathogenic organisms would leave the major volume of wastewater lesser contaminated, thereby enhancing conventional disposal methods or facilitating the development of innovative alternatives.

A powerful strategy for altering typical wastewater characteristics involves in-house waste segregation. As illustrated in Figure 1, waste segregation involves the in-house separation of the individual waste streams produced within a household into three major fractions: (1) the toilet wastes, often referred to as *black water*, (2) the garbage wastes, and (3) the remaining household wastewaters, collectively referred to as *grey water*. The elimination of the garbage disposal and removal of the toilet wastes from the remaining household wastewater stream through use of a non-conventional toilet system (e.g. composting, incinerating, recycle, low volume/flush holding tank) would serve to (1) eliminate unnecessary waterborne wastes, (2) eliminate dilution of concentrated raw waste materials, (3) avoid the co-mingling of wastes of grossly different character and (4) reduce the wastewater flow volume. As a result, major benefits may be realized including, (1) suitable onsite wastewater treatment and disposal in a traditionally unsuitable area, (2) a potential for recycling valuable nutrients to the soil, (3) a reduced nutrient input to groundwater, lakes and streams, and (4) a conservation of water resources.

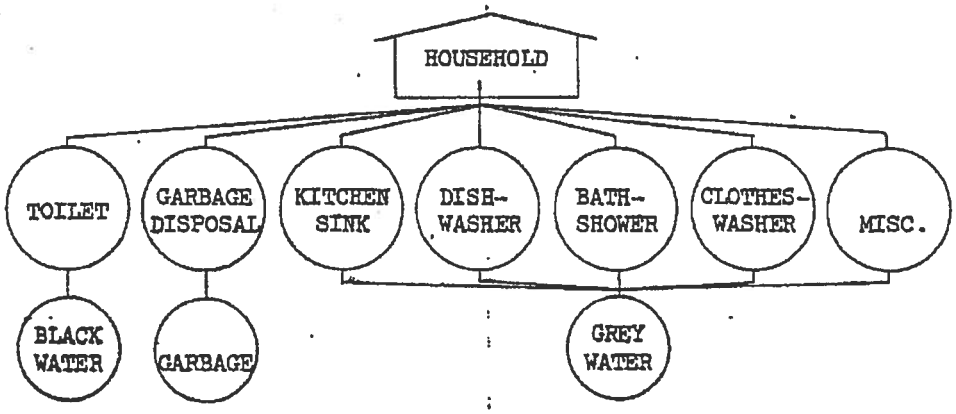

Fig. 1. In-House Waste Segregation

The author is: ROBERT L. SIEGRIST, Sanitary Engineer, Department of Civil and Environmental Engineering, Small Scale Waste Management Project, University of Wisconsin-Madison.

To effectively develop and evaluate the segregated treatment/disposal system concept, investigations have been undertaken as part of the Small Scale Waste Management Project at the University of Wisconsin. Special emphasis has been directed toward the treatment and disposal of grey water, including the development of a feasible grey water treatment system not dependent on site soil conditions. This paper presents a discussion of the theory and application of segregated treatment to facilitate innovative wastewater management. Included is a discussion of research and development efforts previously accomplished and presently scheduled at the University of Wisconsin.

SEGREGATED WASTEWATER CHARACTERISTICS

The potential efficacy of waste segregation for separate treatment is indicated by the characteristics of each wastewater fraction. Based on the results of recent detailed characterization studies, the individual water-using events which typically occur within the home may be grouped to yield three major waste fractions: (1) garbage disposal wastes, (2) toilet wastes, referred to as *black water*, and (3) sink, basin and appliance wastewater, collectively referred to as *grey water* (Siegrist, et al., 1976; Bennett and Linstedt, 1975; Ligman, et al., 1974; Olsson, et al., 1968; Wallman and Cohen, 1974; Laak, 1975). A summary of the average pollutant contributions identified for these three waste fractions is presented in Table 1. It must be emphasized that the values presented are averages, and considerable day-to-day variation may occur at a given home and between homes.

Table 1. Average Pollutant Contributions of Major Residential Wastewater Fractions, grams/capita/day

Fraction	Garbage Disposal	Toilet	Basins, Sinks, Appliances	Approximate Total Contribution
BOD_5	18.0[a] 10.9 - 30.9[b] (1,2,3)[c]	16.7 6.9 - 23.6 (1,2,3,4,6)	28.5 24.5 - 38.8 (1,2,3,4,6)	63.2
Suspended Solids	26.5 15.8 - 43.6 (1,2,3)	27.0 12.5 - 36.5 (1,2,3,4)	17.2 10.8 - 22.6 (1,2,3,4)	70.7
Nitrogen	0.6 0.2 - 0.9 (1,2,3)	8.7 4.1 - 16.8 (1,2,3,4)	1.9 1.1 - 2.0 (1,2,4)	11.2
Phosphorus	0.1 0.1 - 0.1 (1,2,)	1.2 0.6 - 1.6 (1,3,4)	2.8 2.2 - 3.4 (1,3,4)	4.0
Approximate Flow[d] gal/c/d	2 (1,2,3)	16 (1 - 6)	29 (1 - 6)	47

[a]Mean of Study Average Values.

[b]Range of Study Average Values.

[c]References used in mean and range calculations as follows;

1. Siegrist, et al., 1976
2. Bennett and Linstedt, 1975
3. Ligman, et al., 1974
4. Olsson, et al., 1968
5. Wallman and Cohen, 1974
6. Laak. 1975

Coliform and streptococcal isolates were taken from the bath and laundry samples obtained at three of the study households for further characterization. This characterization of 85 fecal coliform and 48 streptococcal isolates indicated that much of the bacterial contamination in the wastewaters was probably from the natural environment or skin flora of man. However, the incidence of certain enterobacteriaciae did indicate possible fecal contamination. Further analyses were performed on the samples obtained from the other three study homes for two common pathogens, Pseudomonas aeruginosa and Staphylococcus aureus. The results indicated a very low incidence of Pseudomonas aeruginosa (1 of 3 homes, 7 of 47 samples) and in those samples where it was isolated, the concentrations were always below 20/100 ml. Staphylococcus aureus was not isolated in any of the 45 samples analyzed.

Bathing and clotheswashing represent the two major residential activities which possess the potential for yielding pathogenic contamination of the residential grey water fraction. The result of these microbiological studies have demonstrated that the bath and laundry wastewaters possess a potential for containing enteric organisms, as well as non-enteric organisms. However, this potential appears substantially lower than that of either the toilet wastes or combined household wastewaters.

SEGREGATED TREATMENT AND DISPOSAL STRATEGIES

The successful application of waste segregation and separate treatment requires the effective management of both the black water and grey water fractions.

Black Water Management

Various strategies have been proposed to enable segregation and separate management of the toilet wastes. Those strategies which appear most feasible for residential use at present, have been outlined in Figure 2. A discussion of these strategies has been presented elsewhere (Rybczynski and Ortega, 1975; Orr and Smith, 1976; Milne, 1976; Siegrist, et al., 1977).

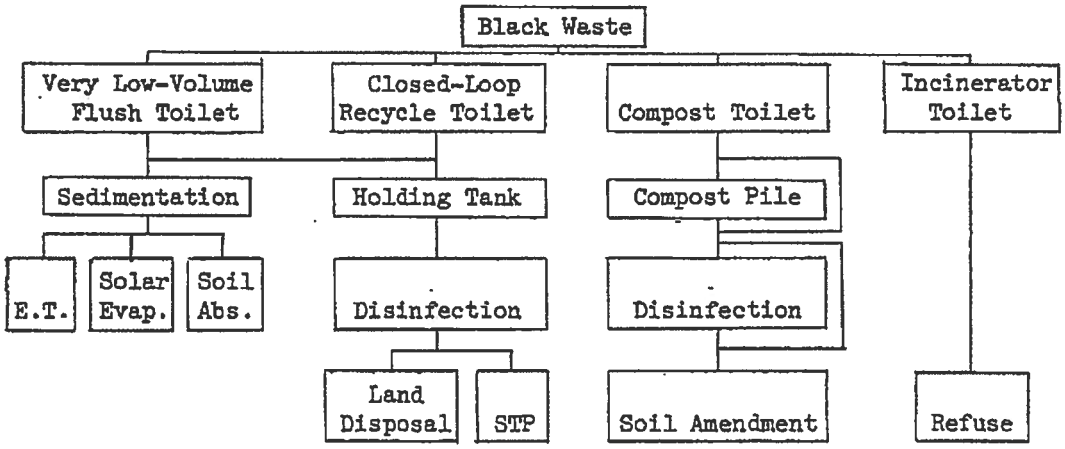

Fig. 2. Strategies for Black Waste Management

Grey Water Management

Typically, when segregated systems have been suggested with the toilet wastes handled through use of an alternative toilet system, grey water disposal has involved a conventional septic tank - soil absorption system. However, more innovative management schemes may be feasible based on the reduced pollutant load and contamination of the grey water. Several potential strategies for

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November 4, 2011

Mr. Brian Schall
NMED Liquid Waste Program
5500 San Antonio Drive NE
Albuquerque NM 87109

Re: Proposed Amendments to 20.7.3.301 and 703 NMAC to Accommodate Natural Hydrogeologic Protection, August 23, 2011 Discussion Draft

Dear Mr. Schall:

The Sandia Heights Homeowner Association (SHHA) fully supports the proposed amendments to the Liquid Waste Disposal and Treatment Regulations that change from a "one-size-fits-all" permitting program to a more reasonable recognition of the various circumstances that merit either a stricter, or a more lenient, application of the regulations.

SHHA represents 2127 homeowners in Sandia Heights, a subdivision in Bernalillo County. Of our residents, 1,260 use septic tanks for waste water treatment; a municipal sewer system serves the remainder. There are no private wells in Sandia Heights. All homeowners in Sandia Heights obtain their drinking water from two community wells operated by Sandia Peak Utility Co. None of the supply wells are near septic tanks and pump water from a depth of 600 to 800 feet. These wells have been in operation for many years, some since original development of the area over 30 years ago, and no contamination of any kind, or nitrogen loading, has ever been recorded by yearly tests.

Sandia Heights is located in an area with no aquifer sensitivity (as shown on the NMED's "Hydrogeological Vulnerability" .map) and SHHA believes that the 0.75 acre rule is a "one-size-fits-all" regulation that should be amended to recognize the diverse aquifer sensitivity areas in the State of New Mexico.

The SHHA fully supports environmental regulations that properly protect the ground water in New Mexico. However, what we see is that the current "one-size-fits-all" regulations as they are

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applied to the existing conditions in our subdivision result in an unnecessary requirement to upgrade septic tanks to a secondary or tertiary system. Such an application of the existing regulatory scheme is unnecessary to protect the environment and imposes significant costs upon the homeowners without providing any tangible environmental benefit. The SHHA recommends that the appropriate standards the EIB adopts should be one based upon hydrogeological sensitivity, defined by local conditions.

The SHHA respectfully requests that the NM Environmental Improvement Board favorably considers the above amendments and remove from the regulations these unreasonably burdensome requirements that are currently applied to all homeowners when local hydrogeological conditions do not warrant it.

Sincerely,

Kate Fry

Kate Fry,
President Sandia Heights Homeowners Association

McQuillan, Dennis, NMENV

From: Schall, Brian, NMENV
Sent: Monday, November 07, 2011 8:48 AM
To: McQuillan, Dennis, NMENV; Brandt, Tom, NMENV
Subject: FW: liquid waste disposal comment..

From a realtor in Jemez Springs.

Brian Schall
Env. Specialist A
NMED Liquid Waste Program
(505) 222-9513

From: Tanya [mailto:TanyaGiggle@Hotmail.com]
Sent: Tuesday, October 04, 2011 4:00 PM
To: Schall, Brian, NMENV
Subject: liquid waste disposal comment..

Dear Mr. Schall,

My name is Tanya Struble and I am the qualifying broker for Gaining Ground Realty Inc. in Jemez Springs. The municipality of Jemez Springs is fortunate to have a sewer system. North and south of the Village, residents utilize septic systems. Maybe, if there were incentives, communities like ours could extend their treatment facilities to outlying areas. Our treatment facility could handle much more capacity than it treats at this time. Most septic systems are adequate for the terrain and lot size but many homes that have sold in the last couple of years have had to install new systems to meet regulations at substantial cost. It seems that if a new system or inspection has been completed since the new regulations were in place, a new inspection should not be necessary. (This goes along with my gripe about new surveys every time a home sells even though there have been no changes to the property). Perhaps an inspection would be necessary if one hasn't been done in the last 5 years and systems that are adequate and functioning properly on a certain size of a lot, say 1/2 acre, that is not within 1,000 feet of a well or water way should not have to be changed.
I'm certain there are many variables for your regulations, but I have watched sellers in tears trying to sell a home while trying to install a $12,000 system that they have to pay for before they can sell their home. It's too hard of an economy and home market to put this additional burden on sellers at this time. Anything that can be done to alleviate this situation would be helpful to our area.
Thank you for your consideration,
Tanya Struble
575-829-9175

CARL STUBBS
PO BOX 4; ALTO, NM 88312
575-336-4966 HOME
575-937-9429 CELL

Dennis McQuillan
Liquid Waste Program Supervisor
PO Box 5469
Santa Fe, New Mexico 87502

Subject: Comments on Proposed Changes to Liquid Waste Disposal and Treatment Regulations, EIB 11-11

Dear Dennis,

What follows are my comments on the proposed regulations.

GENERAL COMMENTS - Many of the changes cleaned up the language and improve understandability of the regulations. This is a common demand after an extensive revision of regulation and a step in the right direction.

NMSA 20.7.3.7.A.4 - Alternative disposal options have been increased. This is a great benefit to industry and an easy expansion of oversight by the Department.

NMSA 20.7.3.7.I.8 - The use of the term "irrigation" in connection with subsurface drip disposal is questionable. Irrigation involves saturation of the soil to water plants. Subsurface drip disposal involves discharges that produce a 10% saturation.

NMSA 20.7.3.7.P.6 – Setting treatment minimum standards is an excellent idea.

NMSA 20.7.3.7.S.13 – Defining split flow helps define and focus this method. It is a natural maturation of guidance into regulation.

NMSA 20.7.3.7.W.3 – Revising the definition of "waters of the state" to mirror the definition used by Groundwater Bureau increases consistency within the agencies within the Department.

NMSA 20.7.3.201.J – Requiring monitoring of effluent of advanced treatment of RV wastes is a good idea, but may over burden an already minimally staff department.

NMSA 20.7.3.201.P – This section redefines design flows relative to lot size. This is a significant change. The average number of persons per household in the United States and New Mexico is 2.3. Obviously this does not occur in all cases, but it indicates that a relaxing of the effluent density rule is appropriate.

NMSA 20.7.3.302.C – Prohibiting liquid waste systems in flood irrigation areas is a good idea. It should have been done long ago.

NMSA 20.7.3.305.B – Requiring interceptor installation approval be a local authority is a very good idea.

NMSA 20.7.3.402.A(3) – Requiring a soil log increases the cost of a permit substantially. Removing this rule from the requirement section and putting it in the optional section, is a good idea. So far as I know, the Department has not demanded soil logs with most permits.

NMSA 20.7.3.701.H – Risers on distribution boxes is a good idea.

NMSA 20.7.3.701.L – Disposal fields should not be paved over. There should also be regulation or guidance for disposal fields under all traffic areas.

NMSA 20.7.3.808 – Providing an easy method to design a low pressure distribution system is a very good idea. The department needs good, official guidance for alternative disposal methods.

NMSA 20.7.3.814 – The expanded language for split flow systems is a welcome improvement. Guidance within the department has been lacking. The method of calculating allowable lot size appears to be flawed. For example, an 80% reduction for a 375 gallon/day design flow should be calculated:

0.75 acres x 0.20 = 0.1500 acres.

Lot size calculations as proposed would be:

375 gallons/day x 0.0003 acres/gallon/day = 0.1125 acres.

There seems to be a significant error here. I suggest a factor of 0.0004 acres/gallon/day.

NMSA 20.7.3.904.A – Requiring a homeowner to receive training and take a test is a very good idea. Homeowners often do not know what they are doing, and need all the help they can get. The test provided by the department needs some improvement, but the requirement is a very good idea.

NMSA 20.7.3.904.B – The increased requirements for a third party inspector for property transfer is a very good idea. The department has seen realtors doing inspections without the knowledge or experience to perform a good inspection. They are also tempted to do drive-by inspections, to reduce costs. These are not acceptable practices.

NMSA 20.7.3.904.C – Including requirements for MSP's to manage "orphan" systems is a great idea. These have been a problem for some time.

Thank you for the opportunity to comment on these proposed regulation changes.

Sincerely,

Carl Stubbs